



Jocassee Journal

Information and News about the Jocassee Gorges

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Jimmy Kluge, DNR wildlife technician and member of the Jocassee Gorges prescribed burning crew, lays down a string of fire with a drip torch during a February prescribed burn. (DNR photo by Greg Lucas)

Fire on the mountain!

DNR fire crew completes more than 600 acres of prescribed burning on Jocassee Gorges in 2006

The Charlie Daniels Band might be proud to know that one of their songs came to life in the Jocassee Gorges as the Jocassee prescribed fire team caused some “Fire on the Mountain” in recent months.

“This was the best year we’ve had on Jocassee in using controlled, or prescribed fire,” said Mark Hall, Jocassee Gorges project leader. “Our annual target was a couple of hundred acres, but this year, things just came together with the burning crew and the weather, and we were able to burn more than 600 acres.”

Forestlands in Jocassee Gorges are scientifically burned to accomplish several management objectives. Recent studies by the U.S. Forest Service and Clemson University have helped

document the utility of fire in the mountains. Hall wrote the Jocassee Forest Management Plan in 2002, and it called for using fire in different types of areas on Jocassee Gorges, one of the state’s most important mountain landholdings.

“Objectives of the controlled burns include diversification of wildlife habitat; maintaining ecological integrity and reducing available fuel, which reduces the chance of catastrophic wildfire,” Hall said. “For many of these ecosystems, it’s not a matter of ‘if’ they will burn, but rather ‘when.’ We like to choose the ‘when,’” Hall said.

Through the centuries, many native plants, animals and habitats in the Southeastern United States have adapted to the presence of recurring fire. The first fires on Jocassee have been implemented in late winter to start the slow process of restoring the fire-dependent plant communities that once flourished, before man intervened in the early 1900s

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DNR Jocassee land manager Mark Hall steps quickly through an area of fire during a prescribed burn on the Shooting Tree Ridge section of Jocassee Gorges in 2005. (DNR photo by Greg Lucas)

Jocassee prescribed burns benefit wildlife, plants

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and halted most of the wild fires. Eventually fire will be used in the spring and summer to mimic the natural types of fire that once supported systems harboring species such as pitch pine, Table Mountain pine and uncommon herbaceous species such as turkey beard.

Recent studies by the U.S. Forest Service's Southern Experiment Station documented changes in ecological values and impacts upon wildlife habitat when fire is used in mountain landscapes. Dr. Vic Shelburne and Dr. Tom Waldrop of Clemson University both participated in the mountain fire studies. The results of the studies contain volumes of information, and include interesting aspects on the changes in vegetative composition, positive impacts on habitat for migrating songbirds and very minimal impact on reptiles and amphibians.

The residents of Pickens County might have thought the sun was rising late in the evening of Feb. 17, as different mountain slopes flared up and spread the glow typical of a small town across the horizon. The Jocassee burning crew stayed with the fires until they were deemed safe and under control. The Jocassee crew includes Hall and the three wildlife technicians Jimmy Kluge, Ronnie Gravely and Ed Stovall, who tend to daily management needs across the 50 square miles of wild lands. Other seasonal fire

managers join the Jocassee crew each year as they are available, to pitch in to help manage the fire lines, which are sometimes a mile long. Hall has begun to rely on the special help they receive from Jocassee Journal Editor Greg Lucas, who is a "fire nut" with special experience in Southern and Western fires. "When you get in a bind, you can always count on Greg Lucas to be there dripping with sweat and ready to do what has to be done," Hall said.

Local staff with the S.C. Forestry Commission assist with creating firebreaks, monitoring all fires in the area and pitching in with the DNR crew when they are needed.

For a review of the results of the 2006 burning season, one only has to take a ride through Jocassee along the Horsepasture Road, which traverses the property from east to west. Roughly 600 acres were burned between Laurel Mountain and Cane Creek, and the sites are very evident from the tell-tale signs of blackened forest floor and thousands of dead mountain laurel shrubs. Mountain laurel grows in a wide variety of habitats, but in the absence of fire it has encroached upon some areas and displaced other species. It is one species that biologists wish to eliminate where it is found in non-natural settings, and in turn allow other plants such as trilliums, orchis and other important wildflowers to flourish. 🌸



The newly renovated and restored Table Rock Lodge features a stunning view of the mountain for which it is named. (S.C. State Park Service photo)

Table Rock Lodge renovated, rededicated

CCC-built structure now hosting meetings, wedding receptions and other functions

The historic granite-and-chestnut lodge at Table Rock State Park has been renovated and restored to its original grandeur. The \$275,000 project began soon after the lodge and its popular restaurant were closed in December 2002. The 3,300-square-foot facility, tucked into a hillside with commanding views of the nearby Blue Ridge Escarpment, is now available for rental for meetings, wedding receptions, dinners and other gatherings.

The park opened in 1938, one of 16 built across South Carolina by the Civilian Conservation Corps during the Great Depression. Along with the park lake's dam, bathhouse, concession buildings, cabins, trails, picnic shelters, fish-rearing pools and warden's building, the lodge has been listed in the National Register of Historic Places since 1989.

The painstakingly restored lodge is anchored by a 1,300-square-foot great room, with two

fireplaces, overstuffed period-style furniture and showcase views of the mountainous Blue Ridge terrain. Porches and rocking chairs highlight the exterior.

Typical of CCC industriousness, the lodge was built with local materials, in this case granite quarried nearby and chestnut planks and beams. The lumber came from trees that died in the chestnut blight 15 years earlier and had stood as sentinels to the loss of that storied part of the American landscape until they were timbered and put to use in the lodge.

"It's a classic, grand old building, and we tried hard to emulate the craftsmanship and passion that the men of the CCC displayed and obviously felt when they first built it in the 1930s," said Phil Gaines, State Park Service director.

The lodge now has a downstairs catering kitchen and dining room that can accommodate 76 people, along with room for about 50 more on the lower-level porch. The entire lodge can be rented at an introductory rate of \$800 a day, or \$500 for the downstairs dining and porch areas alone. 🌸

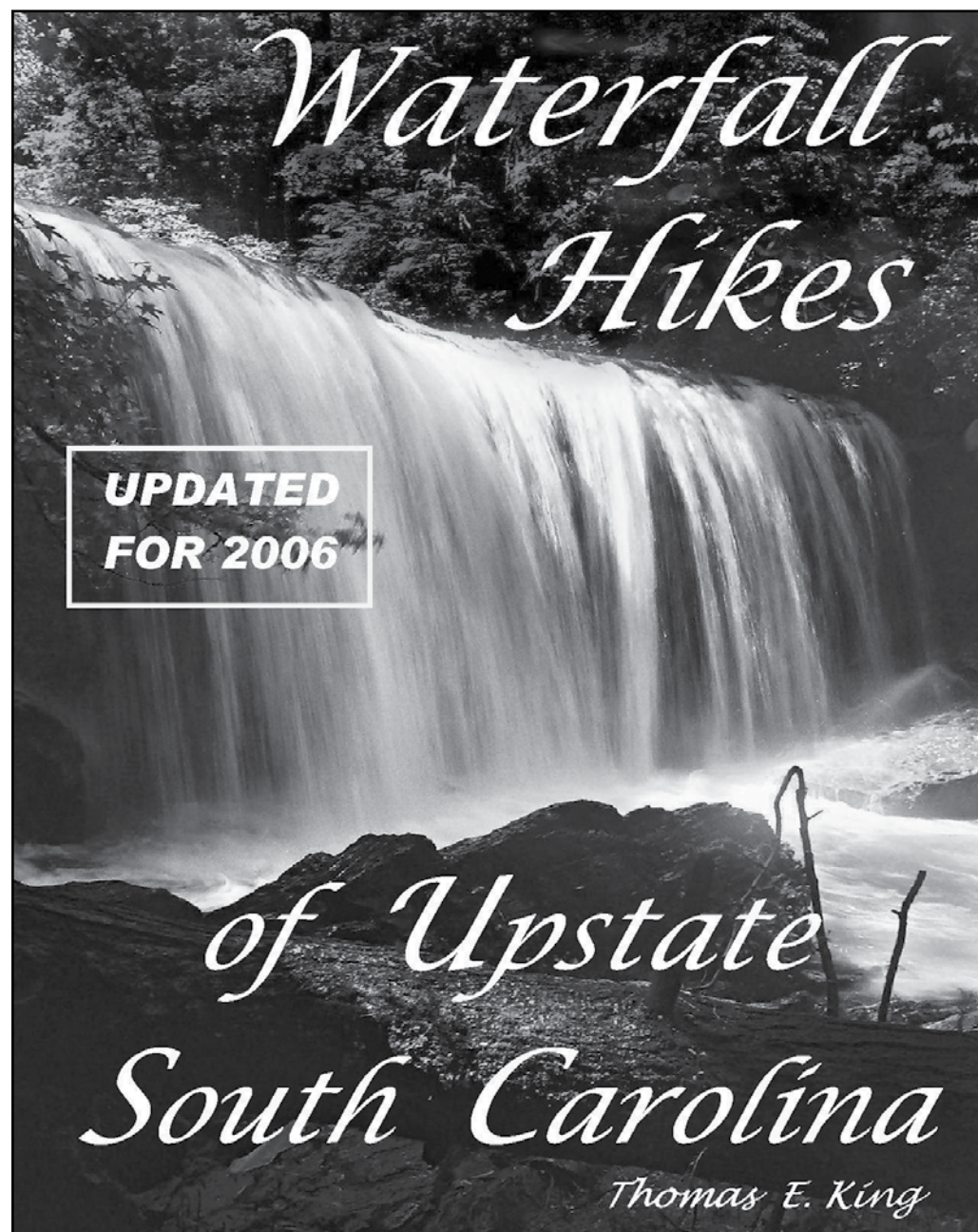
New Upstate waterfalls book published

Book offers family friendly information on hiking to 92 area waterfalls

“Waterfall Hikes of Upstate South Carolina” is the most up-to-date trail and waterfalls guide to family friendly waterfalls in the mountains of South Carolina. This spiral-bound book, by Upstate native Tom King, contains 230 pages and photographs of 92 Upstate waterfalls in the counties of Oconee, Pickens, and Greenville. Information relevant to each waterfall is presented. The waterfalls featured are accessible by families who are encouraged to visit the waterfalls and enjoy the wilderness of South Carolina’s Upstate. Specific travel directions are given to each waterfall. Up-to-date trail directions and conditions and listed for each waterfall.

“Waterfall Hikes of Upstate South Carolina” is available for purchase in many bookstores, sporting goods stores, and hiking and camping outfitters in the Upstate and is available from the following state parks: Caesars Head, Table Rock, Oconee and Devils Fork. It is also available for \$17.95 plus \$4 shipping from the author. Mail a check for \$21.95 to: Thomas E. King, 213 Wesley Ellison Road, Williamston, SC 29697-9590.

Tom King has been an amateur photographer for more than 20 years and has won several local contests and a state-sponsored contest by the S.C. Department of Parks, Recreation, and Tourism. King has been a lifelong avid hiker and backpacker and is sensitive to land protection and conservation issues. He conducts guided hikes along trails and to waterfalls for individuals and groups. With an educational background and profession in



The new spiral-bound waterfalls book by Upstate native Tom King contains 230 pages and photographs of 92 Upstate waterfalls in the counties of Oconee, Pickens, and Greenville.

accounting and real estate appraisal for the past 40 years, King believes in and teaches about wisely using and developing our land as a commodity, but also realizes the great importance of preserving our land as a resource for future generations. King has lived in the rural area of Williamston (Anderson County) with his wife, Fay, for 39 years. He is a member of the Anderson Hikers and Backpackers Club that meets monthly at the Anderson County Library in Anderson and is also a member of Fellowship Baptist Church on Calhoun Street in Anderson. ❁

The beauty of spring a source of constant wonder

An essay

By Dr. Walt Cook

This afternoon, as I drove west and south along SC 11 during the latter part of April, I became aware of the multitude of colors in the woods and fields I saw from the road. Although all were shades of green, they formed a mosaic of colors and shapes. My next thought was that springs were getting better each year—more colorful, more beautiful. Then I thought, maybe they weren’t; maybe it was because I was getting better at seeing what was there every year.

I began looking specifically at the various greens and putting the colors together with the shapes of the tree crowns. I tried to determine which combination of shade of green and shape of crown was indicative of which species of tree. Some combinations are relatively easy to identify. Sassafras in bloom has a color, texture and shape like no other species. Young sweetgum is also quite distinctive, and dogwoods in bloom are really obvious, or so I thought until I saw a Carolina silverbell in bloom.

In studying the roadside trees, I became even more aware of the beauty of spring. Spring begins with the equinox, according to the convention of the calendar. But spring really begins, for me, when I see red maple blooming, followed closely by its red-winged fruits. This year, red maple was very noticeable against the gray of the leafless hardwoods and dark green of the pines. Once, on a previous trip home on SC 11, I saw a full-crowned red maple, with its peak of redness accentuated by the late afternoon sun behind it. Words cannot adequately describe the glow.

Yellow poplar has a distinctive shape, and its color, when the leaves are about one-third grown, defines the color we call chartreuse. Later in the spring, white oak leaves will unfurl in a gray-pink-green pastel that is quite distinctive—and beautiful. But my all-time favorite tree for spring color is not

a deciduous species. It is hemlock! Along about the end of April to the middle of May, depending on latitude and elevation, the dark green hemlock sports an outstandingly beautiful, fresh, bright green tip on each and every branchlet. The beauty of the contrast of the two greens is unsurpassed by any

other species. It may not be noticed on a roadside, but it is definitely a winner on a trailside.

Before driving home on SC 11, I had spent the day designing a foot trail into the Eastatoee Creek Heritage Preserve. In the woods, under the trees that are so beautiful from the road, one finds a totally different array of natural beauty—the spring woodland wildflowers. They are sometimes referred to as the spring ephemerals, because their flowering period is so short. In the relatively brief period

when the soil surface warms from the sun until the green canopy of hardwood trees shade and deprive them direct sunlight, these wonderful creations emerge from dormant roots or seeds, grow to their full 2-to-10-inch height, flower, set fruit and seed, then wither back to the ground. If there were only one or two species inhabiting the forest floor, they would “make my day.” But there are sometimes scores of species along the trail. Some, such as phacelia and yellow trillium, literally form a solid ground cover, while the others, such as showy orchis, gaywings, and the beautiful dark red Vasey’s trillium are only seen occasionally. The former make a spectacular colorful carpet, while the latter are cause for a small celebration when they are seen.

So whether you are walking in the woods, on or off trail, or you are driving along a rural road, you can be entertained by the spring color show.

(Dr. Walt Cook is a retired forestry professor at the University of Georgia and an expert in trail design and construction. He has helped designed many of the new trails in Jocassee Gorges.) ❁



The lush green growth of New York ferns along the Whitewater River floodplain is a cause for vernal celebration in Jocassee Gorges. (DNR photo by Greg Lucas)

South Carolina bear hunters clean up Jocassee, build bench at overlook

Bear hunters give something back to local community to show positive side of hunting

The South Carolina Bear Hunters' Association recently spent a day picking up trash over a large portion of Jocassee Gorges, and constructed a rock bench at the overlook at Laurel Fork Mountain.

The trash pick-up along 30 miles of roadside and bench construction was one of many events that the South Carolina Bear Hunters' Association holds each year to give something back to the local community in which it hunts.

The bench was built at the popular "North Carolina Overlook" at Laurel Fork Mountain, which is on Horsepasture Road east of Jumping Off Rock. The bench was placed there not only to give a resting place for local hikers and visitors to the area, but also to help beautify that particular site.

Each year, the South Carolina Bear Hunters' Association sponsor youth deer, dove and raccoon hunts with the S.C. Department of Natural Resources (DNR). The group also sponsors the "Outdoor Dream Foundation" where a child with a terminal illness is taken on a hunting trip.

The South Carolina Bear Hunters' Association works with DNR to conduct bait line surveys to estimate the black bear population in the mountains. The group also works with DNR in gathering data for mast surveys in the area.

"These hunters live by a code of ethics and strive to come up with good ideas to let the people in the community see the positive things that hunters do," said Robert Chapman, president of the



Members of the S.C. Bear Hunters' Association work on erecting a stone bench at the scenic "North Carolina Overlook" at Laurel Fork Mountain on Horsepasture Road in Jocassee Gorges. The bear hunters picked up trash and built the bench as a way to give back to the community. (Photos by Dennis Chastain)



South Carolina Bear Hunters' Association.

Anyone wishing to become a part of the South Carolina Bear Hunters' Association may contact Robert Chapman at (864) 878-9063. Interested persons may also attend the group's monthly meetings on the first Monday at Holly Springs Fire Department at 7:30 p.m. 🌿



The tranquil beauty of Eastatoee Valley has looked this way for generations, and residents hope it will remain picturesque through a variety of conservation protection measures. (Photo by George Schackel)

Eastatoee Valley a natural and historical treasure nestled in Jocassee Gorges

Future of unique valley rests in hands of private landowners

The Eastatoee Valley in northern Pickens County is a place of stunning beauty and extraordinary ecological importance. Nestled in the Jocassee Gorges, the 2,500-acre valley is home to a small community of residents, many of them with roots going back many generations in the area. The valley is traversed by the pristine Eastatoee River, and its adjoining mountain slopes provide habitat for a great diversity of plant life, including 41 rare species—and a goldenrod species new to science.

Eastatoee Valley also has great historic and cultural significance. For centuries before Europeans arrived, it was the location of Eastatoee Village of the Cherokee Nation, farming the rich river plain soils. Late 18th-century settlers continued the tradition of farming the bottomland, as well as utilizing the resources of game and timber in the surrounding mountains. Today, the valley remains a sparsely populated rural residential haven.

The question now facing Eastatoee Valley residents is "What does the future hold for this heretofore hidden gem?" What will the valley look like—and feel like—when visited by their grandchildren in 50 years time?

In recent years consideration has been given to ways to protect and preserve the valley (See accompanying article on pages 8 and 9 on

preservation strategies for landowners). Preservation of much of the valley and its gentle character is still possible—there has been little development to date, and about 15 owners hold about one-half of the land. Eastatoee Valley faces serious pressures however, as family land is subdivided to succeeding generations, sold to supply needed cash and outside individuals and developers come to appreciate the tranquil amenities to be found here.

A first step in valley preservation was taken by Linda Bowie in 2004. Ms. Bowie was born and raised in the Eastatoee Valley, and has lived there most of her life. She carries a love for this special place, shared by many of her neighbors. Ms. Bowie has placed a conservation easement on her land located about midway down the valley. A conservation easement is a deed restriction in perpetuity that limits future use of the land. The easement is typically held and enforced by a qualified land trust, in this case Upstate Forever. In this particular easement, the owner has reserved the right to build one modest residence. All other development rights are forever relinquished—insuring that Ms. Bowie's piece of the valley will remain largely unchanged throughout succeeding generations.

The Eastatoee Valley remains an "unspoiled" oasis on the edge of the rapidly developing Upstate. The future of the remainder of the valley is in the hands of its residents. 🌿

Conservation options exist for landowners to protect mountain communities

Private lands can be protected through conservation easements or other innovative measures

In 1998, the State of South Carolina purchased the 32,000-acre Jocassee Gorges to protect this priceless natural resource for generations to come. The very act of protecting it, however, brought nationwide attention to what was until then largely the playground of local folks. Now, newcomers are flocking here in unimaginable numbers. Many want to find a piece of private land close by and make this area at least a part-time home. How this eventually plays out will profoundly affect South Carolina's mountain communities and the Jocassee Gorges themselves.



In reality, the Jocassee Gorges have always been only a small part of the largely wild and undeveloped mountain region of South Carolina. Most of this region has long been preserved in its natural state by generations of families descended from the early settlers who moved here in the late 1700s. These people farmed the bottomland and harvested timber from the hills, and, like their indigenous predecessors, many of them sustainably harvested a wide variety of useful herbs and medicinal plants. Now, with young folks pursuing careers in urban areas, farming has largely stopped, and these families are being offered never-dreamed-of fortunes for their land, not for its agricultural or natural resource value, but for homes. As with so many special places, people want to be close to Jocassee Gorges. And just like so many other places, we run the risk of loving the area to death.

Until recently, landowners surrounding the Jocassee Gorges faced a simple choice to “keep or sell” if they wanted their land to be in conservation ownership. Not so today, however. Now, a variety of options exist that essentially allow them to still own their land and have it in conservation protection. Because of recent legislation, they can choose to continue owning and living on their land—preserving it for future generations, just as it was preserved for them—and can benefit from a reasonable financial return for doing so. In some cases, the opportunity also exists to sell land in a way



Most of Eastatoee Valley, seen here in an aerial photo, is in private ownership. Numerous conservation options are available to private landowners wishing to protect their land from development. (Photo by Tommy Wyche)

that insures it will not be developed. Here's a look at some of these new tools and how they work:

In the past, if a landowner wanted to limit what a buyer could do with his land he simply wrote restrictions into the deed and the buyer agreed to abide by them. The problem with this approach is that if the new owner breaks the restrictions, the only recourse available to the seller is to sue the buyer and endure a lengthy and expensive court proceeding. Today, because state and federal law allows land trusts to hold conservation easements on land, property owners can devise restrictions on how their land will be used in the future and the land trust bears the responsibility for insuring their desires are followed, forever. Better yet, the landowner does not have to sell their land to reap financial benefit from it, since they can not only take a tax deduction for agreeing to certain restrictions, they can also get a tax credit, and in some cases even get cash, for doing so.

How does this work? In essence, the restrictions a landowner writes into a conservation easement have tangible value to the public at large. By restricting how the land is used, the owner is “donating” those restrictions to the land trust. A

monetary value can be assigned to these restrictions through a special assessment process, and the landowner may then claim that value as a deduction on their state and federal income taxes. Additionally, South Carolina taxpayers can get up to a \$250 per acre tax credit for these donations.

In some cases, a land trust may be willing to apply for a grant from the South Carolina Conservation Bank (<http://sccbank.sc.gov>) and pay the landowner for a portion of the value of the easement if the Bank awards the proposal for the grant.

In the Upstate the two land trusts qualified to receive conservation easements are Upstate Forever and The Nature Conservancy.

Another way to ensure land preservation is to sell it to a conservation buyer. There are many private parcels immediately adjacent to the Jocassee Gorges tract that the S.C. Department of Natural Resources or its Heritage Trust Program have a strong interest in acquiring, some because of their special natural resource value and others because they compliment the Jocassee Gorges tract in some special way. A sale to these public entities can insure not only their protection, but also enjoyment by the

public for generations to come. Likewise, there are non-profit conservation buyers such as Naturaland Trust, and even private individual conservation buyers who can purchase land with the specific intent of protecting it in private hands with conservation easements.

Often, a landowner will want to continue to live on and enjoy their land for the rest of their life and only pass the land on to a conservation agency or land trust upon their death. In many cases, this can be negotiated and the owner can be compensated while they still live on and enjoy the property, just as they always have, knowing that when they are gone, the land will remain as they left it and as it was left to them.

Some landowners may even choose to donate land to either a state land resource agency or a land trust with the provision that it will be protected from development forever.

Finally, some conservation agencies and land trusts will negotiate for a “right of first refusal,” giving them the first chance to buy and protect land if the landowner decides to sell it in the future.

So, maybe that vision 25 years from now, of Jocassee Gorges as an island of nature surrounded by a sea of development doesn't have to come to pass. That is really a choice for the current private landowners to make. One thing is for sure, if they do nothing, the choice will be made for them, and all of it will be developed. If they choose to act, they can pass on to future generations what was passed on to them, and possibly be compensated for doing so.

If you are interested in learning more about what you can do to preserve your own piece of the Jocassee Gorges area, and what your options are, contact one of these folks, and they will be happy to provide you with the information that will allow you to make an informed decision.

* S.C. Department of Natural Resources and South Carolina Heritage Trust Program: Tom Swaynham, (864) 654-1671, ext. 21, www.dnr.sc.gov.

* Upstate Forever: Dana Leavitt, (864) 250-0500, www.upstateforever.org.

* The Nature Conservancy: Kristen Austin, (864) 233-4988, www.nature.org.

* Naturaland Trust: Tommy Wyche, (864) 242-8213.

* South Carolina Conservation Bank: Marvin Davant, (803) 734-3986, <http://sccbank.sc.gov>. ❁

Hemlocks declining in Jocassee Gorges

Predator beetles may be last line of defense against woolly adelgid

About 30,000 predatory beetles have been released on 20 sites in the Jocassee Gorges in an effort to combat the hemlock woolly adelgid (*Adelges tsugae*) that is killing hemlocks throughout the entire range of the evergreen tree in the Southern Appalachians.

Release sites for the predator beetles (*Sasajiscymnus tsugae*, common name ladybird beetle) in Jocassee Gorges are shown on the map inset. The effectiveness of the biological control effort against

hemlock woolly adelgid (HWA) is not certain, but biologists say that this is the last and only chance they will have to take a shot at saving the Eastern and Carolina hemlock trees on Jocassee Gorges. The tiny predator beetles are the “size of the period at the end of a sentence” and can cost about \$3 to \$4 apiece when available for sale. They are not to be

confused with the common ladybug beetle that people sometimes have trouble with massing in their homes—the predator beetles are about a tenth the size of the ladybug and are entirely forest-dwellers. “About the only thing the predator beetles eat is the hemlock woolly adelgid,” said Mark Hall, Jocassee Gorges Project leader “and we know they don’t even reproduce unless they have plenty of the HWA eggs to eat. Thus we feel that the chance of an environmental calamity with this introduced, non-native beetle is very, very low.”

Demand for the predatory beetles far exceeds demand. The DNR has worked closely with Clemson University’s Dr. Joe Culin and his lab managers LayLa Burgess and Cora Allard on the beetle project. DNR has provided some funding

and food materials for the laboratory. Clemson University has one of the best production units in the world, and scientists hope that the beetles will aid in maintaining one of the key species in Southern mountain forests.

In 2001, Hall worked with seasoned HWA experts from the Northeast to develop a plan for Jocassee Gorges. The HWA had already caused almost total devastation to hemlock in the northern region of its natural range, and Hall called in experts who had experience with the HWA and had learned from trial and error. These experts identified the use of predatory beetles and chemicals in certain areas as

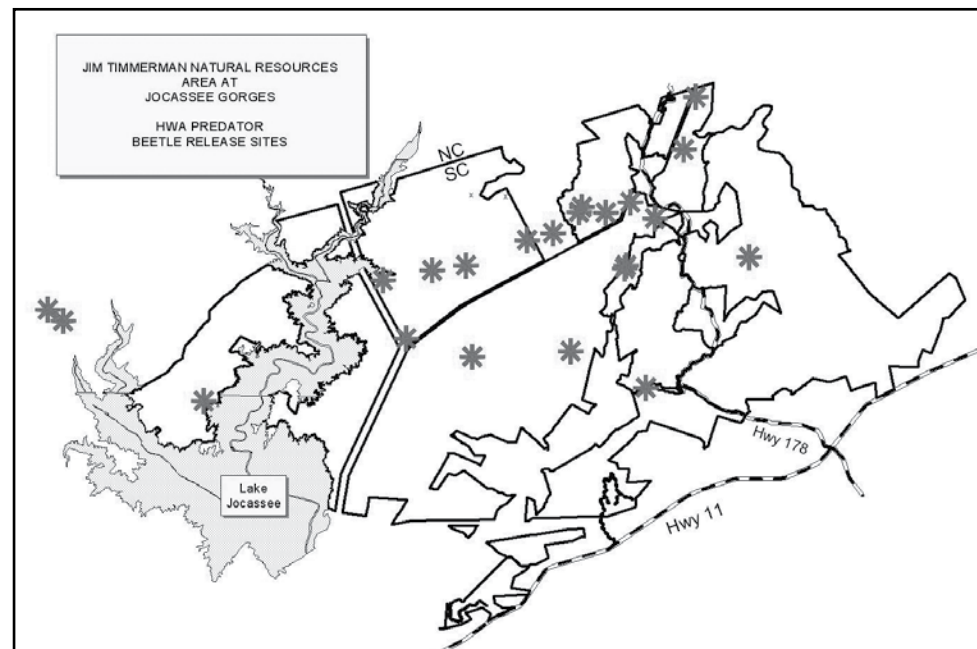
practical methods for Jocassee Gorges.

“Release of predatory beetles is an important first step in helping to control hemlock woolly adelgids in Jocassee Gorges,” said Rusty Rhea, an entomologist with the U.S. Forest Service based in Asheville, N.C. “It’s not a silver bullet or a cure-all by any means. These predator beetles will never eliminate the adelgids, but

rather they can slow the adelgids’ spread and give the trees a fighting chance.”

Hall plans to inject the chemical “imidacloprid” into the soil beneath the crowns of selected Carolina hemlocks on Jocassee Gorges. Carolina hemlocks grow on high, dry sites and represent one of the more rare tree species in South Carolina. The chemicals will be used on about 15 acres that harbor the largest known stand of Carolina hemlocks in the state. “The Carolinas don’t have a high enough population of HWA to support a beetle release, so we elected to use insecticides in this special case, since we don’t want to take any chances with such a special resource,” Hall said.

The hemlock woolly adelgid has been in the



The DNR, with help from Clemson University, has released predator beetles in numerous locations in Jocassee Gorges to help control hemlock woolly adelgids. (DNR map by Mark Hall)

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The Carolina hemlocks on Roundtop Mountain can receive soil treatments to battle hemlock woolly adelgids because they are on high, dry ridges, unlike Eastern hemlocks, which are often located beside water and cannot receive the soil treatments due to the damage it would inflict upon aquatic organisms. (DNR photo by Greg Lucas)

Chemicals used to protect Carolina hemlocks

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United States since 1924. A native of Asia, it has recently been moving rapidly into the Southern Appalachians and has decimated the Eastern hemlock in areas like Shenandoah National Park in Virginia. The adelgids are spread by songbirds, small mammals and infected plant materials. By sucking sap from the young twigs, the hemlock woolly adelgid retards or prevents tree growth causing needles to discolor from deep green to grayish green, and to drop prematurely. The loss of new shoots and needles seriously impairs tree health. Defoliation and tree death can occur within

four years.

Foresters and scientists say that unless the hemlock woolly adelgid is controlled, it could prove as devastating to hemlocks as American chestnut blight, which was introduced into the United States in 1900 and virtually wiped out the American chestnut, the dominant tree in the Southern Appalachians, by 1950. The shade of Eastern hemlocks is vitally important in cooling Jocassee Gorges trout waters. Hemlock woolly adelgids have been found in virtually all areas of the 44,000-acre Jocassee Gorges lands. 🌲



Snails serve as food for a variety of animals in Jocassee Gorges.
(Photo by Dr. Rocky Nation)

Land snails play important role in Jocassee Gorges

Snails are an integral part of woodland ecosystems

By Dr. Rocky Nation

In conservation biology, the word charismatic is often used to describe those species that attract extraordinary interest, excitement, and even awe from the public. The Jocassee Gorges property is home to many charismatic species including black bears, bobcats, red and gray foxes, white-tailed deer, wild turkeys, and many species of migratory birds.

Land snails seldom make anyone's charismatic list. Nevertheless, land snails are important components of woodland ecosystems and current research is revealing that the Jocassee Gorges may be a local hotspot for land snail diversity.

Small-scale surveys from 13 sites have documented 38 species of land snails so far. One 1,000 square-foot area on calcium-rich Wadakoe Mountain has alone yielded 25 species. Of special note is the presence of the corn cob snail (*Helicodiscus saludensis*) a globally rare species known from only two counties worldwide (Pickens

and Greenville, S.C.).

While the most familiar land snails are of the large variety (diameter 3/4 inch and larger), the majority of existing species are small to minute in size (diameter 3/16 inch and smaller) and remain unseen in leaf litter. Some high-calcium sites can have more than 400 minute individuals per cubic foot of leaf litter.

Feeding on fungi and decaying leaf material, land snails have long been recognized for their role in nutrient cycling and soil aeration. While this role is no doubt significant, the most important role land snails may play is as a food source for other species including salamanders, songbirds, and wild turkeys. For example, studies from Scandinavia have demonstrated a positive correlation between land snail

density and migratory bird reproductive success. If this phenomenon is universal, the Jocassee Gorges may prove to be even more valuable than previously thought.

(Dr. Rocky Nation is an assistant professor of biology at Southern Wesleyan University in Central. He did his doctoral research on land snails in Jocassee Gorges.)

Jocassee Gorges becoming trout anglers' destination

Many of the state's best trout waters can be found in area

The state's prized 50 square miles of mountain habitat known as the Jocassee Gorges contains some of the highest quality water resources anywhere, and things are going to get better, according to Mark Hall, wildlife biologist and forester who manages the Jocassee Gorges lands for the S.C. Department of Natural Resources. "We have some excellent trout fishing opportunities in the Jocassee Gorges," said Hall, an avid fly fisherman who relishes opportunities to enhance water quality, trout streams and the quarry he likes to find at the end of his flyline—the brook, brown or rainbow trout. "We have some well managed trout waters and plans to put more waters into first-class management in the near future."

The Eastatoee River and its headwaters support an incredible diversity of aquatic life in terms of invertebrates, salamanders, snakes, frogs and all sorts of critters, including trout, according to Hall. "Just turn over any rock in the stream and you'll find stoneflies, caddisflies, mayflies and their allies," he said.

Traditional, popular trout fishing streams Jocassee Gorges include the Eastatoee River, Cane Creek, Emory Creek and Whitewater River. Some streams are stocked regularly throughout the season, whereas others are left as they are and the wild trout populations are allowed to maintain themselves. Some of the highest elevation streams support the wild, native Eastern brook trout. Others support good populations of fat rainbows and brown trout.

Many management activities on Jocassee are implemented to improve water quality. More than a hundred miles of battered forest roads have been re-graded, stabilized and repaired to reduce sedimentation, erosion and stream impacts. Old roads have been opened to allow fisheries biologists access to several streams to conduct aquatic inventories and implement aggressive trout management. Some streams have received the first trout stockings in decades due to the improved access.

"The most exciting things for water quality and trout on Jocassee are the Reedy Cove Creek and Laurel Fork Creek restoration projects that are evolving due to wetland mitigation needs in the Upstate," said Hall. Hall, who also works with Upstate environmental permitting matters on behalf of DNR, has worked closely with Upstate business interests who have wetland mitigation

needs. "When someone proposes to legally alter a wetland and obtain a permit, they have to propose an environmental trade-off, or a plan to mitigate for the impacts of their projects."

Hall has worked with the Cliff's Communities and others to identify impaired streams on Jocassee where some of the environmental offsets can take place, under specially devised legal agreements. Due to mitigation efforts, Reedy Cove Creek should be re-engineered soon to lower the temperatures on the stream as it passes through Jocassee on its way to Twin Falls. As soon as water temperatures are reduced, the stream will once again support trout and other cold-water organisms. It will become one of the best trout streams in the Upstate, almost overnight.

The most recent project in the works is the 3.5-mile Laurel Fork Creek restoration project. Laurel Fork Creek is one of the main streams that flows into Lake Jocassee, and it creates the most impressive and popular waterfall on the lake. The stream went through a series of alterations during past 80 years with different ownerships. The stream was straightened, piped, filled, lifted and manipulated in many ways. A recent study identified several dozen impaired sites and practical ways to restore the integrity and hydrology of the stream, as Mother Nature had intended it to be.

The Laurel Fork Creek restoration will carry a price tag of around \$1 million, and Hall plans to have the restoration done in cooperative measures with Upstate business interests who are searching for mitigation opportunities. Once Laurel Fork Creek is repaired, it will be managed as one of the state's most impressive trout fisheries. Some sections of the stream will be fairly easy to access for families and children, but other sections will require a bit of a hike. Eventually, it should offer something for a wide variety of users. The Foothills Trail follows Laurel Fork Creek and has some attractive campsites and just plenty of good places for a day visit or a good break from the hustle and bustle of cars, pavement and wires.

The hydrology of Jocassee is interesting, and most people don't realize that most of the water on Jocassee Gorges flows to the Saluda/Broad River system and never reaches Lake Jocassee. Only a few of the streams on Jocassee Gorges actually flow to Lake Jocassee or Lake Keowee, which constitute the upper limits of the Savannah River drainage. Look for good things to come for the cold waters of Jocassee Gorges.

Hiker raves about Foothills Trail, Jocassee Gorges

By Jody Tinsley

I met him one evening in the spring of 2002 while hiking south on the Appalachian Trail. I toiled up to the overlook that gives a great view west to the setting sun at the Penn-Mar Park on the Pennsylvania-Maryland state line. He was sitting at a picnic table, smiled as I walked up, and said, “You want some cherries?” “No thanks,” I answered, as he pulled another pit from his mouth. “I’m interested in something greasier.” I got it at the canteen, and then sat and talked with him as the sun went down, the evening sky blushing at her own shameless display. He was hiking south, too, and we walked out of the park together, since they don’t let you camp there. Over the next four or five days we walked south, mostly together, or at least camping together. One thing I learned about him is that he loved trees, not just a little bit, but with a deep love, both intellectual and passionate. We talked of trees until I was talked out on the subject, and then he talked of trees. Another thing I learned is that he went by the name of Fantasy Feet. Everyone who hikes a lot on the AT goes by a trail name, for tradition, and—at least I’ve always thought—to make the many partings easier. Still, it was with some sadness that I got off the trail at Harpers Ferry, West Virginia, leaving Fantasy Feet behind. He did a good job of keeping up over the years that followed, sending me lots of postcards and some letters as he hiked. I suppose you could say he fell in love with the trail and with trail life, so for five summers running he left his home in Massachusetts and headed south on the AT, always south, walking down to the southern end of the trail in Georgia, more or less, each year, and then getting

a ride back north in winter to wait for the next year’s hike. But he had different plans for the winter of 2005-2006. Several facts came together—he decided he wanted to hike back north, but needed to spend a little time down south to let the weather warm before he headed north again, he realized that he’d never been to South Carolina, and he’d heard rave reviews from many hikers on the AT about the Foothills Trail.

He called me out of the blue from near Blood Mountain in Georgia and asked if I could possibly come and get him and shuttle him over to the Foothills Trail. So I did. He stayed with me for a while before setting out, and we took the time to look over lots of maps I have: Maps of the Foothills Trail, Forest Service maps of the Chattooga River Trail and the Bartram Trail, and maps and aerial photos of the Jocassee Gorges that I have because I work with the South Carolina MAPS Program—they show the amazing changes of elevation in this area and the numerous waterfalls. He said that there seemed

to be some really impressive “foothills” on the Foothills Trail, looking at the depth and complexity of the Jocassee Gorges area. I agreed, forced to erase the image he had in his mind of the Foothills Trail running through low (and warm) pastureland and bottoms. When we stopped at the visitor’s center at Table Rock State Park, where I dropped him off to begin his hike, he stared up at the cliffs of Table Rock Mountain and at nearby Pinnacle Mountain and mused, “Yes, I think these might be some of the most underrated foothills in America.” But he gamely set off, shouldering his pack, heavy with food



Whitewater Falls along the Foothills Trail is one of the many natural wonders of Jocassee Gorges. (DNR photo by Greg Lucas)



Looking out over a rock outcrop on the side of Pinnacle Mountain along the Foothills Trail, hikers Barry Lucas (left) and Hadden Lucas enjoy a view that stretches for miles. (DNR photo by Greg Lucas)

Foothills Trail scenery, trail conditions praised

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(so heavy, in fact, that he calls it The Fat Lady, just so that he can say every afternoon when he takes it off at camp, “Man, I’m glad to get that Fat Lady off my back!”), hung with extra clothes and food, including a half-gallon of buttermilk that he likes to drink richly fortified with brown sugar.

So off he went, for some 12 days or so, and then he called me when he reached Oconee State Park; I had offered to meet him to take him to buy groceries again before he headed off on the Bartram Trail. How did it go? I asked of course, and this man who has hiked probably 8,000 miles in the last five years, and who knows every foot of the Appalachian Trail from Georgia to Massachusetts, said “It was great. I liked it better than the AT. The climbs aren’t as high, though perhaps more steep, but the landscape is more intimate than most of the AT, more interesting. The waterfalls in those gorges are wonderful, trail conditions are great, and the trees...” Here he went on for about 30 minutes, talking of the trees at Coon Branch and many, many others! He was also amazed that in all the time he was out he only saw one other hiker, other than a few people in the parks. He asked why the trail was so underused, and I answered “Good question.” He said it was a highlight of his last five years.

He also told me of an interesting experience, which I couldn’t clarify for him. Here it is, in as close to his own words as I can remember, in case

any readers can help:

“I followed the trail out of the woods and onto an old logging road. The road sloped a little and had a bit of a gully across it. At one point there was a big, dark rock in the gully, like a shelf of stone the water couldn’t erode, and since the trail crossed the road I headed for the rock as the best way across. The rock looked wet and slick, so I put my foot down gingerly on it to test my footing, and the whole rock quivered like jelly. I was shocked and crouched down to investigate, and the whole mass—about 6 feet long, 2 to 3 feet wide, and 18 inches deep—was eggs, each about ¼ inch in diameter with a small black dot in the middle that looked like a tiny, tiny tadpole. The mass had been there long enough so that leaves were on it around the edges, and although in a little gully it wasn’t in a place that water would stand.”

And that’s his story. Fantasy Feet is heading north now, and I wish him good weather and good luck. And I thank him for reminding me of what a treasure we have nearby in the Foothills Trail through the Jocassee Gorges and for reminding me of the mysteries that are in the woods around us. *(Jody Tinsley was born in Liberty and has always loved the outdoors. When not leading outdoor trips, he teaches part-time at Clemson University, leads workshops about South Carolina for public school teachers, and also writes and edits.)* 🌿

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